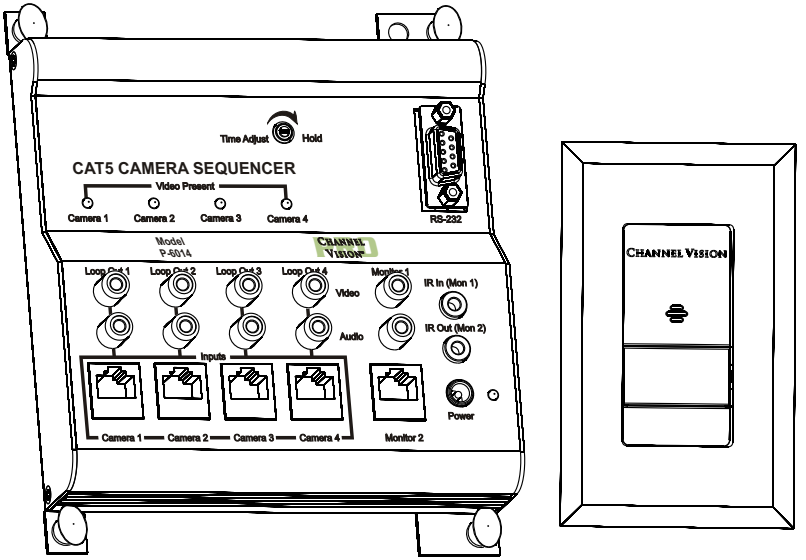
INSTRUCTIONS



P-6014
CAT5 Camera Sequencer

6210
Color CAT5 Camera

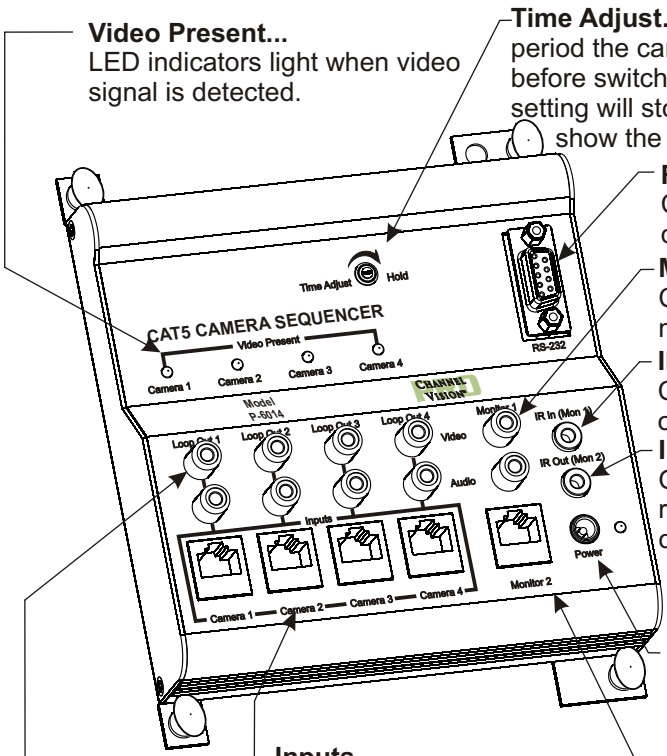
CHANNEL VISION™ PRO

©2008 CHANNEL VISION TECHNOLOGY

The **P-6014** is a 4 input 2 output camera sequencer and switcher for Channel Vision's **6210** color CAT5 cameras (sold separately). Easily view any of the cameras simply by letting them sequence through the screen automatically or by pressing a button on the optional remote control. The RS-232 interface as well as audio/video loop out connections make it easy to integrate the P-6014 into any security system - from basic to the most complex.

P-6014 Features:

- Creates an easy interface for CAT5 cameras
- Switches both audio and video
- Monitor output sequences through the camera views automatically
- IR and Serial Control options
- Mounts in a structured wire enclosure
- Cost effective and easy to install



Video Present...
LED indicators light when video signal is detected.

Time Adjust... Changes the time period the cameras are viewed before switching. The maximum setting will stop cycle mode and show the current camera.

RS-232...
Connect serial controller here

Monitor 1...
Connect audio/video monitor here

IR In (Mon 1)...
Connect an IR receiver or an IR system

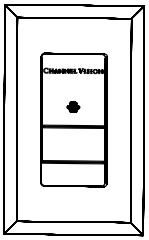
IR Out (Mon 2)...
Outputs IR signals received via the 3112 connected to Monitor 2

Power...
Connect power supply here

Loop Out...
Provides Audio/Video output from each camera

Inputs...
Connect CAT5 cameras here

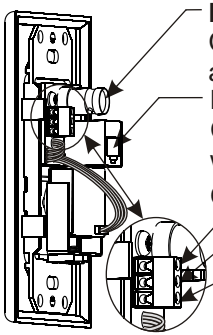
Monitor 2...
Connect 3112 here to provide a secondary monitor output, independent from Monitor 1



The **6210** Color CAT5 camera with audio mounts in a single gang J-box or low-voltage ring and is designed to be connected directly to the P-6014 camera inputs. The P-6014 provides loop out connections that allow the camera signals to be connected to another device such as a DVR or modulator.

6210 Features:

- BNC & CAT5 output
- Built-in microphone
- Screwless trim plate
- Mounts in a 1-gang box
- Easy to install

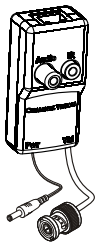


BNC Video Output...
Connect coax here to use as a conventional camera

RJ-45 Output...
Connect CAT5 here to use with P-6014

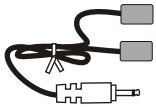
Camera Power & Audio Out...
Audio out from microphone
Ground (shared)
+12VDC

Accessories (Sold Separately)

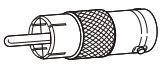


3112 ... CAT5 audio/video interface. Allows audio, video, power, and IR signals to be connected to the CAT5 cable. It can be used to transform a traditional camera into a CAT5 camera, or used to extract audio and video from the Monitor 2 output of the P-6014. When used on the Monitor 2 output, the IR input jack can be used to input IR signals that allow Monitor 2 to select different camera views than Monitor 1.

A0505 ... Remote control. Contains IR codes for controlling the P-6014 as well as many other Channel Vision audio/video products.

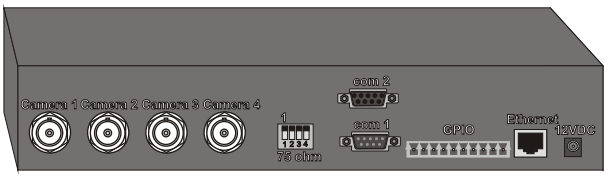


IR-3001 & IR-3002 ... Single and dual head IR flashers. Use one head per source to control from the remote room. (IR-3002 shown).



2129 ... RCA to BNC adaptor. Use to adapt video signals on BNC cables (such as cameras) to the RCA video input commonly found on TVs and monitors.

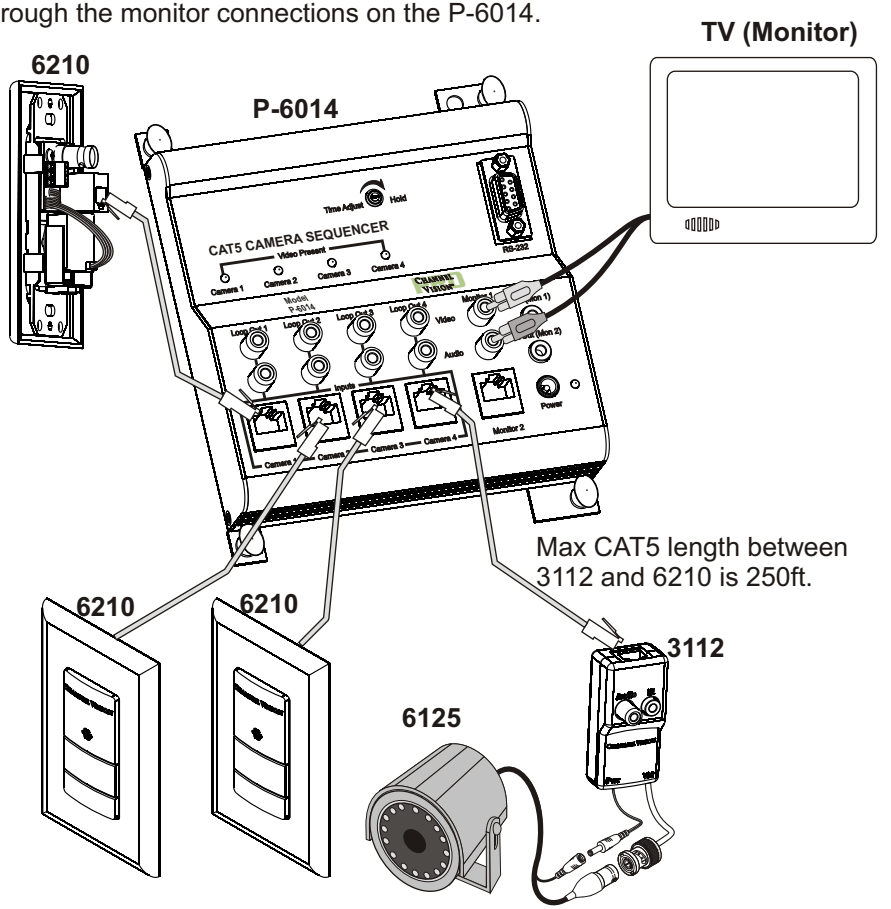
Complementary Product (Sold Separately)



W4000 ... Web Camera Server allows any 4 camera video signals to be viewed through the local network or internet on any computer.

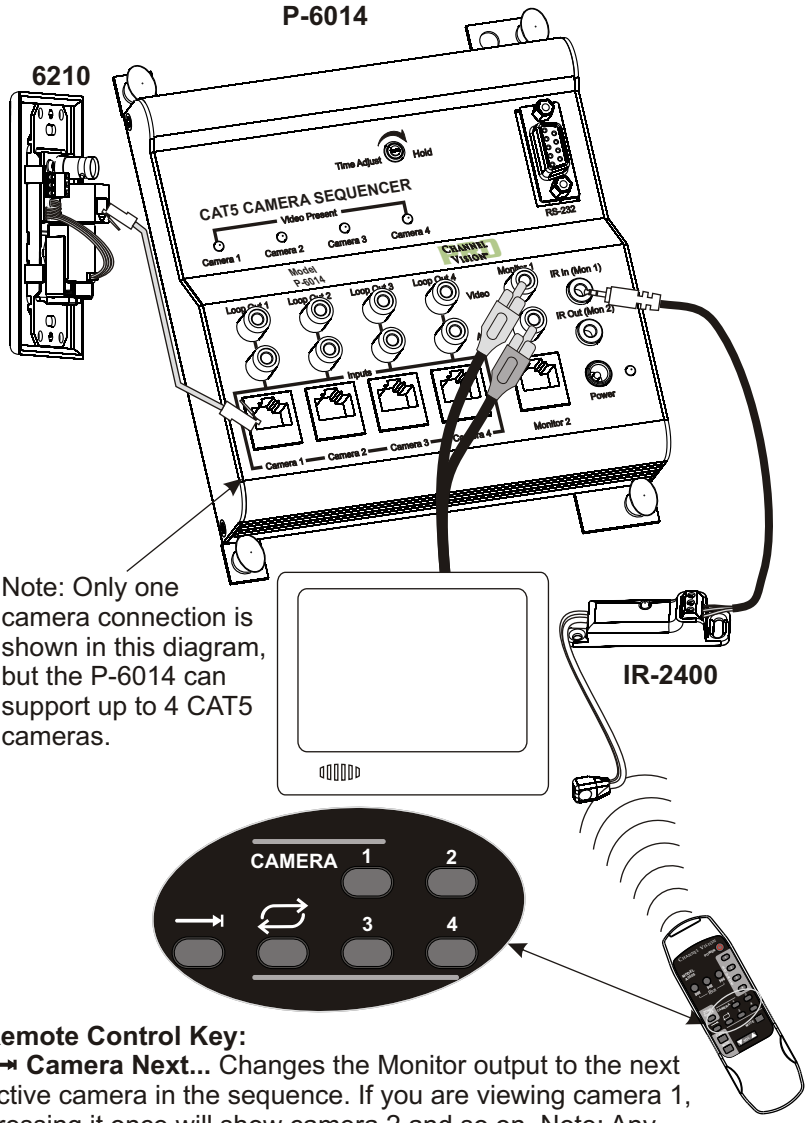
P-6014 Camera Sequencer Basic Application...
The primary function of the P-6014 is to sequence through its 4 camera inputs. The Time Adjust control determines the length of time each camera view is shown before switching to the next camera view. Unless the RS-232 or IR remote control features are used, the P-6014 will remain in the Auto Cycle mode. If only three of the four inputs have an active video signal, only the three active camera inputs will be shown when in the Auto Cycle mode.

The 6210 camera was specifically designed to work together with the P-6014. A single CAT5 cable provides power to the camera and delivers video and audio signals back to the sequencer. These audio/video signals are output through the monitor connections on the P-6014.



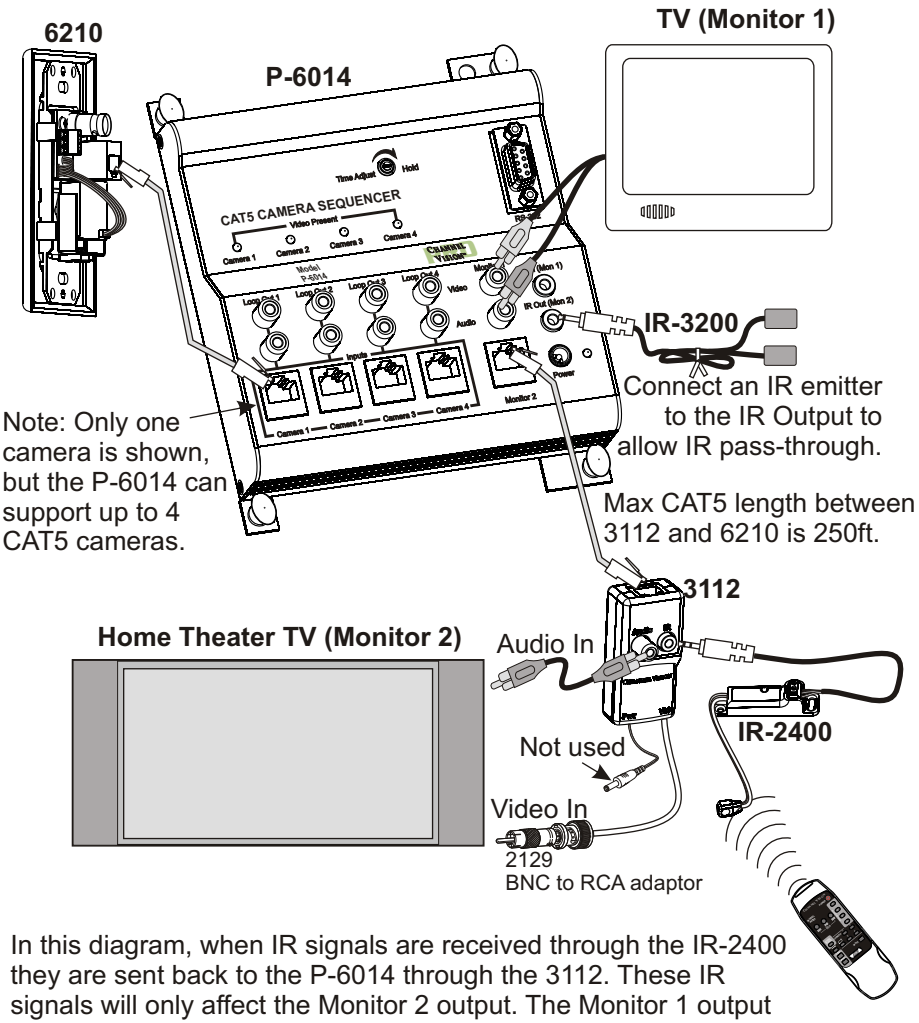
The P-6014 can be used with Channel Vision's 6210 CAT5 camera or any conventional camera when used with the 3112 accessory. The 3112 has multiple applications, but when used in this application the IR connection will not be used and the Audio connection would only be used if your conventional camera has a built-in microphone.

Using The A0505 Remote Control... P-6014 Camera Sequencer
The A0505 is designed to allow you to control the switching functions on your P-6014. The A0505 allows you to choose any of the 4 cameras or select the Auto Cycle mode.



Remote Control Key:
⟞ **Camera Next...** Changes the Monitor output to the next active camera in the sequence. If you are viewing camera 1, pressing it once will show camera 2 and so on. Note: Any unused camera inputs will be skipped.
🔁 **Camera Cycle...** Causes the Monitor output to sequence through the cameras. The time adjustment on the P-6014 determines how long each camera view is displayed before switching to the next one. Note: Any unused camera inputs will be skipped.
1, 2, 3, 4 Camera Views... Changes the Monitor output directly to the corresponding camera input.

Controlling The P-6014 Through The Monitor 2 Connection...
Controlling the P-6014 through the IR Input connection will only affect the Monitor 1 output. To control the Monitor 2 output, IR signals must come through the Monitor 2 output RJ-45 connection via the 3112 as shown below.

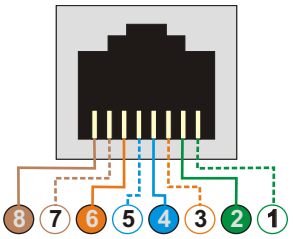

6210
P-6014
TV (Monitor 1)
CAT5 CAMERA SEQUENCER
IR-3200
Connect an IR emitter to the IR Output to allow IR pass-through.
Note: Only one camera is shown, but the P-6014 can support up to 4 CAT5 cameras.
Max CAT5 length between 3112 and 6210 is 250ft.
3112
Home Theater TV (Monitor 2)
Audio In
Not used
Video In
2129
BNC to RCA adaptor
IR-2400

In this diagram, when IR signals are received through the IR-2400 they are sent back to the P-6014 through the 3112. These IR signals will only affect the Monitor 2 output. The Monitor 1 output can be independently controlled by connecting an IR receiver to the “IR Input” jack on the P-6014.

In this configuration, the P-6014 allows IR pass through so that IR signals intended for other devices (such as a whole-house music system) will be routed out the “IR Output” jack on the P-6014.

RJ-45 Pin Out Diagram...
For troubleshooting purposes, it may be helpful to know the wire pin out for the RJ-45 jacks on the P-6014. They are shown below:

RJ-45 Jack (TIA 568A)



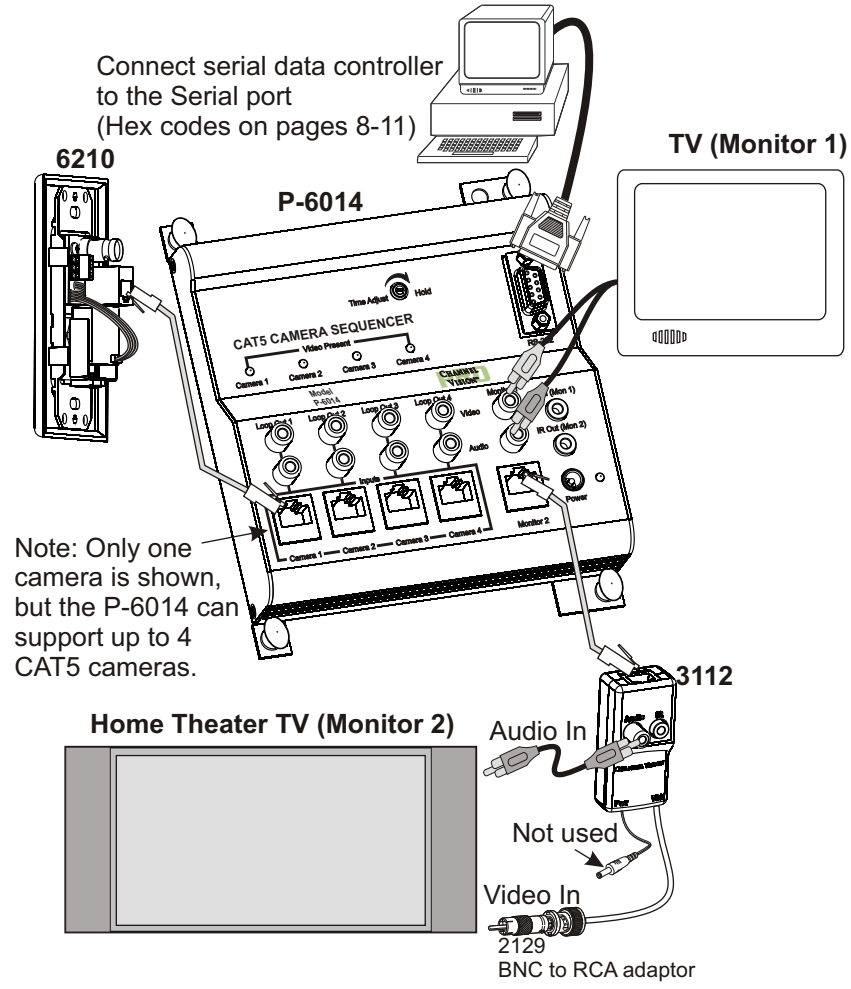
Camera Inputs

Pin	Signal
8	Gnd
7	Video
6	Gnd
5	N.C.
4	Gnd
3	Audio
2	Gnd
1	+12VDC

Monitor 2 Output

Pin	Signal
8	Gnd
7	Video
6	Gnd
5	IR
4	Gnd
3	Audio
2	Gnd
1	+12VDC

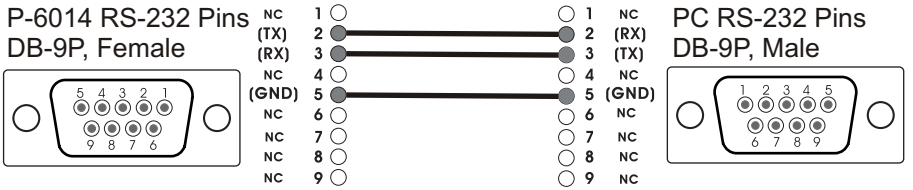
Controlling The P-6014 Through The RS-232 Port...
The RS-232 port is the most flexible way to control the P-6014 because it provides access to every feature on the unit. This is the preferred way for most high-end control system to interface with devices such as the P-6014.


Connect serial data controller to the Serial port (Hex codes on pages 8-11)
6210
P-6014
TV (Monitor 1)
CAT5 CAMERA SEQUENCER
Note: Only one camera is shown, but the P-6014 can support up to 4 CAT5 cameras.
3112
Home Theater TV (Monitor 2)
Audio In
Not used
Video In
2129
BNC to RCA adaptor

RS-232 Control Code...
For installations requiring more sophistication the P-6014 supports RS-232 making it extremely compatible with automation systems.
Baud Rate: 19200, 8N1 (8Bit Data, No Parity, 1 Stop Bit)
Each transmission = 8 ASCII bytes
Checksum = The sum of the first 7 bytes inverted and truncated.
Note: the checksum for each command is included in the following charts. For troubleshooting purposes, the letter z can be used in place of the checksum character.

There are two possible responses generated when a command is received:
ack - This acknowledges that the command was received and it had a valid checksum.
ZZZ - This means that the command was not understood or could not be decoded correctly. It could also mean that the checksum was not valid.

Serial Cable Pin Out



Monitor 1 Commands

Function	ASCII Command	Hex Command
Monitor 1, Select Camera 1	P64Z1S16	50 36 34 5A 31 53 31 36
Monitor 1, Select Camera 2	P64Z1S25	50 36 34 5A 31 53 32 35
Monitor 1, Select Camera 3	P64Z1S34	50 36 34 5A 31 53 33 34
Monitor 1, Select Camera 4	P64Z1S43	50 36 34 5A 31 53 34 33
Monitor 1, Select Next Cam	P64Z1SN[em]	50 36 34 5A 31 53 4E 19
Monitor 1, Auto Cycle	P64Z1SR[nak]	50 36 34 5A 31 53 52 15
Monitor 1, Request Status	P64Z1SF!	50 36 34 5A 31 53 46 21

Monitor 2 Commands

Function	ASCII Command	Hex Command
Monitor 2, Select Camera 1	P64Z2S15	50 36 34 5A 32 53 31 35
Monitor 2, Select Camera 2	P64Z2S24	50 36 34 5A 32 53 32 34
Monitor 2, Select Camera 3	P64Z2S33	50 36 34 5A 32 53 33 33
Monitor 2, Select Camera 4	P64Z2S42	50 36 34 5A 32 53 34 32
Monitor 2, Select Next Cam	P64Z2SN[can]	50 36 34 5A 32 53 4E 18
Monitor 2, Auto Cycle	P64Z2SR[dc4]	50 36 34 5A 32 53 52 14
Monitor 2, Request Status	P64Z2SF[sp]	50 36 34 5A 32 53 46 20

Global Commands

Function	ASCII Command	Hex Command
Global, Select Camera 1	P64ZAS1&	50 36 34 5A 41 53 31 26
Global, Select Camera 2	P64ZAS2%	50 36 34 5A 41 53 32 25
Global, Select Camera 3	P64ZAS3$	50 36 34 5A 41 53 33 24
Global, Select Camera 4	P64ZAS4#	50 36 34 5A 41 53 34 23
Global, Select Next Cam	P64ZASN[ht]	50 36 34 5A 41 53 4E 09
Global, Auto Cycle	P64ZASR[enq]	50 36 34 5A 41 53 52 05
Global, Request Status	P64ZASF[dc1]	50 36 34 5A 41 53 46 11
Global, Status Clear	P64ZASC[dc4]	50 36 34 5A 41 53 43 14

Note: these charts contains some ASCII commands that include non-standard ASCII characters (characters which are not included on a standard keyboard). When programming a controller with these functions, it may be necessary to use the Hexadecimal equivalent shown in the far right hand column.

Time Adjust Commands...

The following Time Adjust commands alter the amount of time each camera view appears on the screen. Making time adjustments via these RS-232 will override any physical adjustments made using the “Time Adjust” control on the P-6014.

You can use either the global commands, which will set the time adjustment on all the cameras, or you can use commands for the specific camera inputs. This allows you to set different viewing times for each of the camera inputs. For example, if camera 1 is the most important camera, you might want to set it to show for 10 seconds, while cameras 2, 3, and 4 are set for 1 second. These time settings will remain in the P-6014’s memory. For example, if you send a command to switch to a specific camera view and then another command to return back to the cycle mode, time settings for the cycle mode will be the same as they were before you switched to the specific camera view. **Note:** Any movement of the Time Adjust control will cause the unit to enter the cycle mode and will override the time adjustment settings made via the serial controller.

Function	ASCII Command	Hex Command
Monitor 1, Cam 1, 1 Second	P64Z111X	50 36 34 5A 31 31 31 58
Monitor 1, Cam 1, 2 Seconds	P64Z112W	50 36 34 5A 31 31 32 57
Monitor 1, Cam 1, 3 Seconds	P64Z113V	50 36 34 5A 31 31 33 56
Monitor 1, Cam 1, 4 Seconds	P64Z114U	50 36 34 5A 31 31 34 55
Monitor 1, Cam 1, 5 Seconds	P64Z115T	50 36 34 5A 31 31 35 54
Monitor 1, Cam 1, 7.5 Seconds	P64Z116S	50 36 34 5A 31 31 36 53
Monitor 1, Cam 1, 10 Seconds	P64Z117R	50 36 34 5A 31 31 37 52
Monitor 1, Cam 1, 15 Seconds	P64Z118Q	50 36 34 5A 31 31 38 51
Monitor 1, Cam 2, 1 Second	P64Z121W	50 36 34 5A 31 32 31 57
Monitor 1, Cam 2, 2 Seconds	P64Z122V	50 36 34 5A 31 32 32 56
Monitor 1, Cam 2, 3 Seconds	P64Z123U	50 36 34 5A 31 32 33 55
Monitor 1, Cam 2, 4 Seconds	P64Z124T	50 36 34 5A 31 32 34 54
Monitor 1, Cam 2, 5 Seconds	P64Z125S	50 36 34 5A 31 32 35 53
Monitor 1, Cam 2, 7.5 Seconds	P64Z126R	50 36 34 5A 31 32 36 52
Monitor 1, Cam 2, 10 Seconds	P64Z127Q	50 36 34 5A 31 32 37 51
Monitor 1, Cam 2, 15 Seconds	P64Z128P	50 36 34 5A 31 32 38 50
Monitor 1, Cam 3, 1 Second	P64Z131V	50 36 34 5A 31 33 31 56
Monitor 1, Cam 3, 2 Seconds	P64Z132U	50 36 34 5A 31 33 32 55
Monitor 1, Cam 3, 3 Seconds	P64Z133T	50 36 34 5A 31 33 33 54
Monitor 1, Cam 3, 4 Seconds	P64Z134S	50 36 34 5A 31 33 34 53
Monitor 1, Cam 3, 5 Seconds	P64Z135R	50 36 34 5A 31 33 35 52
Monitor 1, Cam 3, 7.5 Seconds	P64Z136Q	50 36 34 5A 31 33 36 51
Monitor 1, Cam 3, 10 Seconds	P64Z137P	50 36 34 5A 31 33 37 50
Monitor 1, Cam 3, 15 Seconds	P64Z138O	50 36 34 5A 31 33 38 4F
Monitor 1, Cam 4, 1 Second	P64Z141U	50 36 34 5A 31 34 31 55
Monitor 1, Cam 4, 2 Seconds	P64Z142T	50 36 34 5A 31 34 32 54
Monitor 1, Cam 4, 3 Seconds	P64Z143S	50 36 34 5A 31 34 33 53
Monitor 1, Cam 4, 4 Seconds	P64Z144R	50 36 34 5A 31 34 34 52
Monitor 1, Cam 4, 5 Seconds	P64Z145Q	50 36 34 5A 31 34 35 51
Monitor 1, Cam 4, 7.5 Seconds	P64Z146P	50 36 34 5A 31 34 36 50
Monitor 1, Cam 4, 10 Seconds	P64Z147O	50 36 34 5A 31 34 37 4F
Monitor 1, Cam 4, 15 Seconds	P64Z148N	50 36 34 5A 31 34 38 4E

Monitor 2 Time Adjust Commands

Function	ASCII Command	Hex Command
Monitor 2, Cam 1, 1 Second	P64Z211W	50 36 34 5A 32 31 31 57
Monitor 2, Cam 1, 2 Seconds	P64Z212V	50 36 34 5A 32 31 32 56
Monitor 2, Cam 1, 3 Seconds	P64Z213U	50 36 34 5A 32 31 33 55
Monitor 2, Cam 1, 4 Seconds	P64Z214T	50 36 34 5A 32 31 34 54
Monitor 2, Cam 1, 5 Seconds	P64Z215S	50 36 34 5A 32 31 35 53
Monitor 2, Cam 1, 7.5 Seconds	P64Z216R	50 36 34 5A 32 31 36 52
Monitor 2, Cam 1, 10 Seconds	P64Z217Q	50 36 34 5A 32 31 37 51
Monitor 2, Cam 1, 15 Seconds	P64Z218P	50 36 34 5A 32 31 38 50
Monitor 2, Cam 2, 1 Second	P64Z221V	50 36 34 5A 32 32 31 56
Monitor 2, Cam 2, 2 Seconds	P64Z222U	50 36 34 5A 32 32 32 55
Monitor 2, Cam 2, 3 Seconds	P64Z223T	50 36 34 5A 32 32 33 54
Monitor 2, Cam 2, 4 Seconds	P64Z224S	50 36 34 5A 32 32 34 53
Monitor 2, Cam 2, 5 Seconds	P64Z225R	50 36 34 5A 32 32 35 52
Monitor 2, Cam 2, 7.5 Seconds	P64Z226Q	50 36 34 5A 32 32 36 51
Monitor 2, Cam 2, 10 Seconds	P64Z227P	50 36 34 5A 32 32 37 50
Monitor 2, Cam 2, 15 Seconds	P64Z228O	50 36 34 5A 32 32 38 4F
Monitor 2, Cam 3, 1 Second	P64Z231U	50 36 34 5A 32 33 31 55
Monitor 2, Cam 3, 2 Seconds	P64Z232T	50 36 34 5A 32 33 32 54
Monitor 2, Cam 3, 3 Seconds	P64Z233S	50 36 34 5A 32 33 33 53
Monitor 2, Cam 3, 4 Seconds	P64Z234R	50 36 34 5A 32 33 34 52
Monitor 2, Cam 3, 5 Seconds	P64Z235Q	50 36 34 5A 32 33 35 51
Monitor 2, Cam 3, 7.5 Seconds	P64Z236P	50 36 34 5A 32 33 36 50
Monitor 2, Cam 3, 10 Seconds	P64Z237O	50 36 34 5A 32 33 37 4F
Monitor 2, Cam 3, 15 Seconds	P64Z238N	50 36 34 5A 32 33 38 4E
Monitor 2, Cam 4, 1 Second	P64Z241T	50 36 34 5A 32 34 31 54
Monitor 2, Cam 4, 2 Seconds	P64Z242S	50 36 34 5A 32 34 32 53
Monitor 2, Cam 4, 3 Seconds	P64Z243R	50 36 34 5A 32 34 33 52
Monitor 2, Cam 4, 4 Seconds	P64Z244Q	50 36 34 5A 32 34 34 51
Monitor 2, Cam 4, 5 Seconds	P64Z245P	50 36 34 5A 32 34 35 50
Monitor 2, Cam 4, 7.5 Seconds	P64Z246O	50 36 34 5A 32 34 36 4F
Monitor 2, Cam 4, 10 Seconds	P64Z247N	50 36 34 5A 32 34 37 4E
Monitor 2, Cam 4, 15 Seconds	P64Z248M	50 36 34 5A 32 34 38 4D

Global Time Adjust Commands

Function	ASCII Command	Hex Command
Global, All Cams, 1 Second	P64ZAT1%	50 36 34 5A 41 54 31 25
Global, All Cams, 2 Seconds	P64ZAT2$	50 36 34 5A 41 54 32 24
Global, All Cams, 3 Seconds	P64ZAT3#	50 36 34 5A 41 54 33 23
Global, All Cams, 4 Seconds	P64ZAT4”	50 36 34 5A 41 54 34 22
Global, All Cams, 5 Seconds	P64ZAT5!	50 36 34 5A 41 54 35 21
Global, All Cams, 7.5 Seconds	P64ZAT6[sp]	50 36 34 5A 41 54 36 20
Global, All Cams, 10 Seconds	P64ZAT7[us]	50 36 34 5A 41 54 37 1F
Global, All Cams, 15 Seconds	P64ZAT8[rs]	50 36 34 5A 41 54 38 1E

CHANNEL VISION™

2 Year Limited Warranty

Channel Vision Technology will repair or replace any defect in material or workmanship which occurs during normal use of this product with new or rebuilt parts, free of charge in the USA, for two years from the date of original purchase. This is a no hassle warranty with no mail in warranty card needed. This warranty does not cover damages in shipment, failures caused by other products not supplied by Channel Vision Technology, or failures due to accident, misuse, abuse, or alteration of the equipment. This warranty is extended only to the original purchaser, and a purchase receipt, invoice, or other proof of original purchase date will be required before warranty repairs are provided.

Mail in service can be obtained during the warranty period by calling (800) 840-0288 toll free. A Return Authorization number must be obtained in advance and can be marked on the outside of the shipping carton.

This warranty gives you specific legal rights and you may have other rights (which vary from state to state). If a problem with this product develops during or after the warranty period, please contact Channel Vision Technology, your dealer or any factory-authorized service center.

Specifications: (typical @25º C)

P-6014

Dimensions:	5.5”W x 6.5”H x 1.5”D
Power Supply:	15VDC @ 1.6A
IR Frequency Range:	30-60kHz
Operating Temp:	-10ºC to 50ºC
Audio Bandwidth:	20Hz - 20kHz
Video Crosstalk:	-80dB
Video Bandwidth:	DC - 20MHz
Video Crosstalk:	-60dB
CAT5 Ports:	
Max run length:	250ft (Camera input + Monitor output)
Max Camera Power:	12VDC @ 280mA

6210 Camera

Lens:	3.8mm
Resolution:	380 lines
S/N Ratio:	More than 48dB
Min Illumination:	0.4 LUX @ F2.0
Power Consumption:	120mA

CHANNEL VISION™
www.channelvision.com
234 Fischer Avenue, Costa Mesa, California 92626 USA
(714)424-6500 • (800)840-0288 • (714)424-6510 fax
email: techsupport@channelvision.com